14" COMBO

OWNERS MANUAL



Be sure to read carefully and follow all the

SAFETY INFORMATION on pages i-iii.

Keep the manual in a safe place

for future reference.

FOR MORE INFORMATION: www.strategicvista.com

Safety information



CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and servicing instructions in the literature accompanying the appliance.

 $\hbox{WARNING}: \hbox{ TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS } \\$

APPLIANCE TO RAIN OR MOISTURE.

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT,

FULLY INSERT.

IMPORTANT SAFEGUARDS

In addition to the careful attention devoted to quality standards in the manufacture of your video product, safety is a major factor in the design of every instrument. However, safety is your responsibility too. This sheet lists important information that will help to assure your enjoyment and proper use of the video product and accessory equipment. Please read them carefully before operating and using your video product.

Installation

- **1** Read and Follow Instructions- All the safety and operating instructions should be read before the video product is operated. Follow all operating instructions.
- **2** Retain Instructions- The safety and operating instructions should be retained for future reference.
- **3** Heed Warnings-Comply with all warnings on the video product and in the operating instructions.
- **4** Polarization- This video product is equipped with a polarized alternating -current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way.
 - This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to replace your obsolete outlet. To prevent electric shock, do not use this polarized plug with an extension cord, receptacle, or other outlet unless the blades can be fully inserted without blade exposure. If you need an extension cord, use a polarized cord.
- **5** Power Sources-This video product should be operated only from the type of power source

indicated on the marking label. If you are not sure of the type of power supply to your home, consult your video dealer or local power company. For video products intended to operate from battery power, or other sources, refer to the operating instructions.

- **6** Overloading- Do not overload wall outlets of extension cords as this can result in a risk of fire or electric shock. Overloaded AC outlets, extension cords, frayed power cords, damaged or cracked wire insulation, and broken plugs are dangerous. They may result in a shock or fire hazard. Periodically examine the cord, and if its appearance indicates damage or deteriorated insulation, have it replaced by your service technician
- **7** Power-Cord Protection- Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the video product.
- Ventilation- Slots and openings in the case are provided for ventilation to ensure reliable operation of the video product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the video product on a bed, sofa, rug, or other similar surface. This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the video product manufacturer's instruction's have been followed.
- **9** Attachments- Do not use attachments unless recommended by the video product manufacturer as they may cause a hazard.
- **10** Water and Moisture- Do not use this video product near water- for example, near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement, or near a swimming pool and the like. Caution: Maintain electrical safety. Powerline operated equipment or accessories connected to this unit should bear the UL listing mark or CSA certification mark on the accessory itself and should not be modified so as to defeat the safety features. This will help avoid any potential hazard from electrical shock or fire. If in doubt, contact qualified service personnel.
- 11 Accessories- Do not place this video product on an unstable cart, stand, tripod, bracket, or table. The video product may fall, causing serious injury to a child or adult as well as serious damage to the video product. Use this video product only with a cart, stand, tripod, bracket, or table recommended by the manufacturer or sold with the video product. Any mounting of the product should follow the manufacturer's instructions and use a mounting accessory recommended by the manufacturer.
- **12** A video product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the video product and cart combination to overturn.
- **13** Power Lines- An outside antenna system should not be located in the vicinity of overhead power lines, other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching or approaching such power lines or circuits as contact with them might be fatal. Installing an outdoor antenna can be hazardous and should be left to a professional antenna installer.

Security 14" Monitor Combination

Use

- **14** Cleaning- Unplug this video product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- **15** Object and Liquid Entry-Never push objects of any kind into this video product through openings as they may touch dangerous voltage points or "short-out" parts that could result in a fire or electric shock. Never spill liquid of any kind on the video product.
- **16** Lightning-For added protection for this video product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video product due to lightning and power line surges.

Service

- 17 Servicing-Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- **18** Conditions Requiring Service-Unplug this video product from the wall outlet and refer servicing to qualified service personnel under the following conditions.
 - A. When the power-supply cord or plug is damaged.
 - B. If liquid has been spilled, or objects have fallen into the video product.
 - C. If the video product has been exposed to rain or water.
 - D. If the video product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
 - E. If the video product has been dropped or the cabinet has been damaged.
 - F. When the video product exhibits a distinct change in performance-this indicates a need for service.
- 19 Replacement Parts-When replacement parts are required, have the service technician verify that the replacements he uses have the same safety characteristics as the original parts. Use of replacements specified by the video product manufacturer can prevent fire, electric shock, or other hazards.
- **20** Safety Check- Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks recommended by the manufacturer to determine that the video product is in safe operating condition.
- **21** Wall or Ceiling Mounting- The product should be mounted to a wall or ceiling only as recommended by the manufacturer.
- **22** Heat-The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.

Note to CATV system installer

This reminder is provided to call the CATV system installer's attention to Section 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

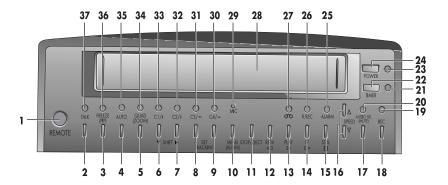
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Locations of controls and indicators

Front panel



1 REMOTE SENSOR

2 TALK button

By pressing the talk button and holding this button the user has the ability to talk to a specific camera location in full-screen mode. This button must be pressed the entire time, while talking to listen to the camera location.

3 FREEZE(PIP) button

Pressing this button will freeze the picture on screen. To 'Unfreeze', press the button again. To use the PIP switching feature, press and hold this button for 2 seconds. Pressing this button consecutively will switch the screen from PIP (single channel) to PIP (Twin Picture).

4 AUTO button

Displays each channel sequentially. $(C1 \rightarrow C2 \rightarrow C3 \rightarrow C4 \rightarrow OUAD)$

5 QUAD(ZOOM) button

This button will place the unit into quad display or zoom mode. To use the zoom feature, press and hold this button for 2 seconds. The selected

screen will be enlarged. Press the channel 1,2,3,4 buttons to Zoom in on a location.

6 C1/ † (SHIFT ▼) button

This button allows the user to go to full screen display of channel 1. In the menu screen, this button activates as SHIFT ▼ button. In the zoom mode, this button moves the zoom in location to the upper side (†).

7 C2/ ↓ (SHIFT ►) button

This button allows the user to go to full screen display of channel 2. In the menu screen, this button activates as SHIFT ▶ button. In the zoom mode, this button moves the zoom in location to the lower side (†).

8 C3/-(SET-/TRACKING-)

This button allows the user to go to full screen display of channel 3. In the menu screen, this button activates as SET- button. In the zoom mode, this button moves the zoom in location to the left side(-). In playback mode of VCR, it activates as the TRACKING - button.

9 $C4/\rightarrow (SET+/TRACKING+)$

This button allows the user to go to full screen display of channel 4. In the menu screen, this button activates as SET+ button.

In the zoom mode, this button moves the zoom in location to right side(→).

In playback mode of VCR, it activates as the TRACKING+ button.

10 MENU(ALARM) button

This button allows the user to enter/exit the menu screen from the OSD mode. When you press it for 2 seconds or more, it turns the alarm function ON or OFF.

11 STOP/EJECT button

Stops all tape related functions. Press again to remove the cassette.

12 REW button

Begins high-speed rewind of the tape or high-speed reverse playback during playback.

13 PLAY button

Plays a previously recorded tape. During playback, this button performs retracking function.

14 FF button

Begins high-speed fast forward of the tape or high-speed playback during playback.

15 PAUSE/STILL button

Press this button to pause recording. When pressed during playback, tape advances by still picture.

16 SPEED(▲/▼) buttons

In stop or recording mode, SPEED ▲ button selects the recording speed 2, 6, 18....720, 960H in SP (6, 18H in EP). In playback mode, SPEED ▲ button selects the playback speed 2, 6, 18....720, 960H in SP (6, 18, 24H in EP).

SPEED ▼ button activates in reverse order.

17 AUDIO SEL(MUTE) button

Selects the audio channel camera. When you press it for 2 seconds or more, it turns the audio ON or OFF.

18 REC button

Turns the recording mode ON and one more press of this button after about 5 seconds performs recheck mode.

- 19 REC LED
- 20 AUDIO LED
- 21 TIMER REC LED
- 22 TIMER button

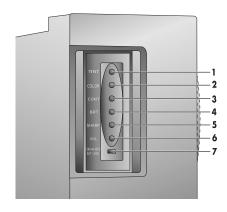
Used to select timer recording stand-by mode.

- 23 POWER LED
- 24 POWER button

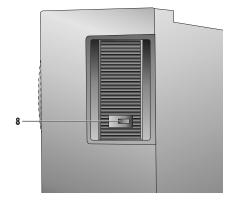
Used to turn the monitor ON or OFF.
* Only "MUTE" button is available in Power Off mode.

- 25 ALARM REC LED
- **26 REPEAT REC LED**
- 27 TAPE IN LED
- 28 CASSETTE LOADING DOOR
- 29 MIC SPEAKER
- **30 C4 LED**
- 31 C3 LED
- 32 C2 LED
- 33 C1 LED
- 34 QUAD(ZOOM) LED
- 35 AUTO LED
- 36 PIP(FREEZE) LED
- 37 TALK LED

Side panel



- 1 TINT Knob
- 2 COLOR Knob
- 3 CONTRAST Knob
- 4 BRIGHTNESS Knob
- 5 SHARPNESS Knob
- 6 SOUND VOLUME Knob



7 SET LOCK ON/OFF

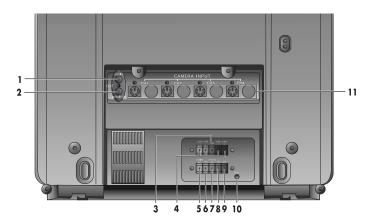
is to prevent accidental stopping of recording.

8 MAIN POWER

Used to turn the system ON or OFF.

^{*} Caution: Press each key at more than 0.5 seconds intervals for safe performance of set.

Back Panel



1 AUDIO OUT

is a RCA connector for audio output.

2 MONITOR OUT

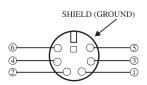
is for present picture out.

- 3 COM terminal
- 4 ALARM1/2/3/4 terminals are for PIR input for each camera channel.
- 5 WARNING OUT terminal

6 COM terminal

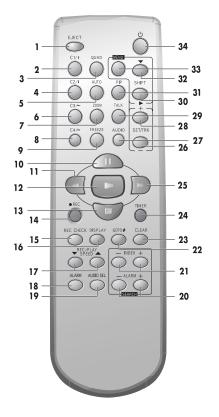
- 7 TAPE END OUT terminal
- 8 COM terminal
- 9 COM terminal
- 10 RESET
- **11 CAMERA INPUT** (channel 1 to 4) Consists of 4 6 pin Din and 4 BNC camera inputs.

- 6PIN MINI DIN JACK -



- ① N.C
- ② TALK 12V OUTPUT
- 3 AUDIO OUTPUT
- 4 AUDIO INPUT
- (5) VIDEO INPUT
- **6** DC 12V OUTPUT

Remote Control



1 EJECT button

is to remove the cassette.

2 CH1 button

enables channel 1 be displayed in full screen.

3 QUAD button

displays the picture in quadrant mode.

4 CH2 button

enables channel 2 be displayed in full screen.

5 AUTO button

displays each channel sequentially. $(C1 \rightarrow C2 \rightarrow C3 \rightarrow C4 \rightarrow QUAD)$

6 CH3 button

enables channel 3 be displayed in full screen.

7 ZOOM button

is to enlarge the selected channel. Zoom In location can be selected with C1, C2, C3, C4 button.

8 CH4 button

enables channel 4 be displayed in full screen.

9 FREEZE button

is to freeze all or certain displayed channel(s).

10 PAUSE/STILL button

When pressed during recording, tape movement stops temporarily. When pressed during playback, tape advances by still picture.

11 REW **◄** button

Begins high-speed rewind of the tape or high-speed reverse playback during playback.

12 PLAY ▶ button

Plays a previously recorded tape. During playback, this button performs retracking function.

13 STOP ■ button

Discontinues all tape related functions.

14 • REC button

Turns the recording mode ON.

15 REC CHECK button

During recording, is used to confirm the record checking operation.

16 DISPLAY button

displays some or all data on or off (date/time, tape counter, etc...) (or in playback mode, current mode playback speed of VCR) with each press of this button.

17 REC/PLAY SPEED ▲ / ▼ buttons

used to select the recording speed during stop or recording mode of VCR. Also it is to select the playback speed during playback mode.

18 ALARM button

When you press it for 2 seconds or more, it turns the alarm mode ON or OFF.

*** In alarm off mode, alarm recording can't be performed even if there is alarm signal.

19 AUDIO SEL button

selects talk input channel camera.

- 20 ALARM -/+ buttons
- 21 INDEX -/+ buttons
- 22 COUNTER GO TO 0 button

23 CLEAR button

used to delete the information stored on screen display as Alarm time, Tape counter and timer program setting.

- 1) All of the Alarm time which is previously set can be deleted by pressing CLEAR button in ALARM INPUT TIME menu.
- 2) Timer Program setting can be

deleted by pressing CLEAR button in the line that the hand mark () is located in TIMER PROGRAM REC SET menu.

3) Tape counter can be reset to "0H 00M 00S" in playback mode when the cassette is loaded.

24 TIMER button

used to select timer recording standby mode.

25 FF → button

begins high-speed fast-forward of tape or high-speed playback during playback.

- 26 SET (TRACKING -) button
- 27 AUDIO button

turns the audio ON or OFF.

28 SET + (TRACKING +) button

29 TALK button

used to talk to the person at the camera location when using a 6 pin Din camera. Press and hold to talk to the person. Release to listen.

30 SHIFT ▼ button

31 PIP button

Pressing this button consecutively will switch the screen from PIP (single channel) to PIP (Twin Picture).

32 SHIFT ▶ button

33 MENU button

This button allows the user to enter/exit the Menu screen.

* MENU button is unavailable in playback, FF or REW mode. Available only in Stop mode.

34 POWER button

turns the monitor ON or OFF.

* Only "audio" button is available in Power Off mode.

Video Cassette Tapes



- If you try to record on a cassette without the erasureprevention tab, the set will eject the cassette.
- If the TIMER button is pressed when a cassette without the erasureprevention tab is loaded, the set will eject the cassette, the timer recording LED will be lit on and a buzzer will sound if "YES" is set in the menu for buzzer.



- When the cassette is loaded, 50 (Tape In) LED will be lit on.
- The counter display will switch to the reset counter "OH OOM OOS" display on the monitor screen.



- Do not insert any object in the cassette loading slot, as that may cause injury and damage to the set.
- If your hand gets stuck in the cassette loading slot, unplug the power cord and consult the dealer where the unit was bought. Do not forcibly pull the hand out as that may cause severe injuries.

Use only video cassette tapes bearing the **VHS** logo.

This set was primarily designed for use with T-120 cassette tapes. It is recommended to use T-120 VHS video cassette tapes for optimal performance.

Handling Cassette Tapes

- Cassette tapes should always be stored vertically in their cases, away from high temperatures, magnetic fields, direct sunlight, dirt, dust and locations subject to mold formation.
- Do not tamper with the cassette mechanism.
- Never touch the tape with your fingers.
- Protect cassette tapes from shocks or strong vibrations.

To Protect your recordings

- After having recorded a tape, if you wish to keep the recording, use a flathead screwdriver to break off the erasure-prevention tab on the cassette.
- To record again on a tape without erasure-prevention tab, cover the hole with an adhesive tape.

Erasure-prevention tab



To prevent accidental erasure, remove the tab after recording.

To record again, cover the hole with vinyl tape.

Loading



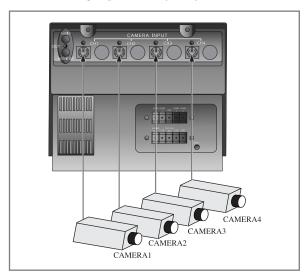
Place the cassette, label side up, in the loading slot. Gently push the center of the cassette until it is loaded automatically.

Unloading

In STOP mode, press the EJECT button. The cassette is automatically ejected.

Basic System Installation

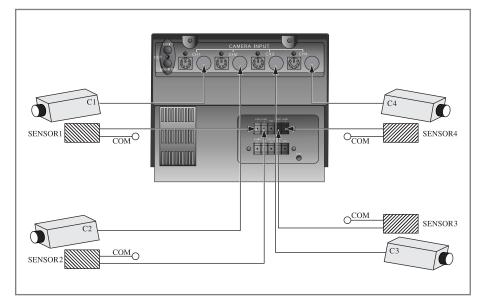
1) For the case of 6 Pin Mini Din Jack Camera Set Perform following steps to install your system.



- **/**
- Use an authorized camera only. Another make of camera can't be used.
- Turn the Monitor power OFF when connecting or disconnecting with the Camera. (If you don't do that, malfunction of Monitor and Camera may cause.)
- 1 Unpack all components of the set from the packing material.
- 2 Identify all of the accessories.
- 3 Place the set in a convenient location for your usage. See 'Safety Information' in this manual.
- 4 Install cameras to be connected to this set.
- 5 Connect the power cord between this set and your wall mounted power outlet.
- 6 Turn on the power of all cameras and this monitor.
- 7 A quadrant display should be seen on the monitor.
- 8 Microphone sound of camera 1, 2, 3, 4 can be heard at Monitor Speaker. While you press the Talk button, the microphone signal of Monitor can be heard at camera.
- 9 Microphone signal of each camera can be selected by pressing C1, C2, C3, C4 button.
- * Note: Depending on the system purchased, zero, one, two, three or four cameras may have been included with this system.

stem. Security 14" Monitor Combination

2) For the case of BNC Camera Set



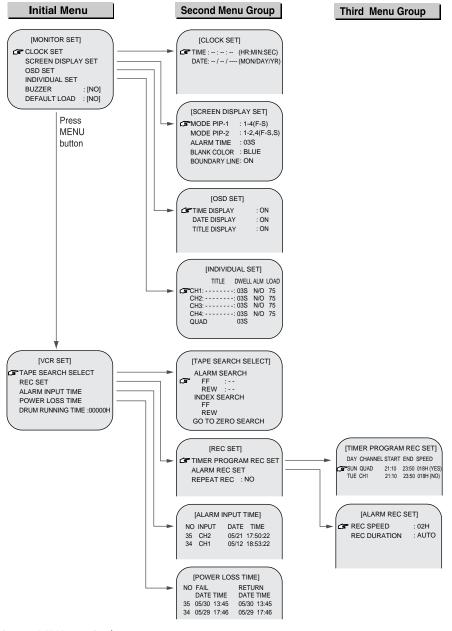
- According to your sensor type, set ALM(Alarm) to N/O, N/C or OFF in INDIVIDUAL SET mode of page 20.
- Purchase above Sensor and BNC Camera additionally.

Types of On-screen displays and Display Sequence

- If this set is in timer recording stand-by mode (eg. The Timer LED is lit on), the onscreen displays will not be available. First press the Power button, to cancel the recording stand-by mode, then proceed with the programming you want. When finished, press the Power button again to return the set to timer recording stand-by mode.
- When a menu is displayed, recording will not be possible.
- Press the MENU button three times, the setting procedure is now completed and the normal screen is displayed.
- During recording or playback the menus cannot be displayed.

A

- Press the MENU button, the MONITOR SET screen appears. (First time)
- Press the SHIFT ▼ button to move the hand mark (⑤) downward for the desired item.
- Press the SHIFT ▶ button to select the desired item, then the desired menu is displayed.
- Press the MENU button to go to the VCR SET screen from the initial menu.
- Press the MENU button three times to return to the normal screen from the initial menu.
- R
- Press the SHIFT ▶ button to select the desired item.
- Press the SET (or +) button to set or Press the SHIFT ▶ button to select "YES" or "NO".
- Press the MENU button to return to each initial menu.
- C
- Press the SHIFT ► (or SHIFT ▼) button to select the desired item.
- Press the SET (or +) button to set or Press the SHIFT ▶ button to select.
- Press the MENU button to return to the previous menu.

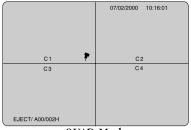


MONITOR & QUAD OPERATION

Change Display Mode

Change Display Mode

There are 6 different display mode styles.



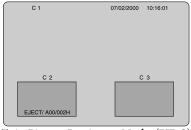
C 1 07/02/2000 10:16:01

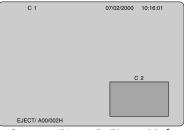
C 2

EJECT/ A00/002H

QUAD Mode

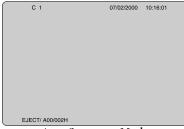
Picture In Picture Mode (PIP-1)

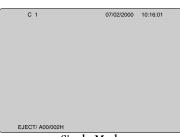




Twin Picture In picture Mode (PIP-2)

Sequence Picture In Picture Mode





Auto Sequence Mode

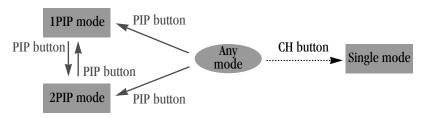
Single Mode

- You can hear the audio only when the audio is turned on.
- Adjustment channel could be interfered in blueback
- "†" mark in Quad mode screen indicates current output audio channel. To select it, press Audio Sel button.

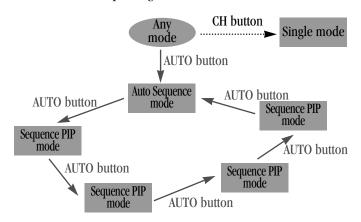
The following state diagram shows the sequence of selected mode when pressing QUAD button and CH buttons.



The following state diagram shows the sequence of selected mode when pressing PIP button.



The following state diagram shows the sequence of selected mode when pressing AUTO button and CH buttons.

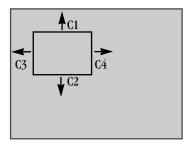


Quad Mode Operation

Connect the cameras to the monitor. The monitor is defaulted to the quad setting.

Zoom mode operation

This mode enlarges and scans the camera signal or VCR playback signal at 2 times.



By pressing C1, C2, C3, C4, the subject moves to upper, bottom, left or right side and is scanned.

Sequential Auto Mode Operation

Press the AUTO button, it should display one camera after another.

Automatic Camera Skip in the Auto mode

If you do not wish to view a particular camera, set the DWELL in the INDIVIDUAL SET mode of the MONITOR SET to a value of zero.

Manual Mode Operation

This set displays only one camera (full-screen), even if there are additional cameras connected to it.

- Select the desired camera location.

- To playback in still mode, press the FREEZE button in Freeze mode of VCR playback signal.
- The Freeze function can't be activated in Zoom mode.
- No signal parts and Boundary line are displayed at back side in zoom scan mode.

• The DWELL time can be

adjusted from 1 to 30

screen.

seconds in the INDIVIDUAL

SET of the MONITOR SET

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Clock Setting

- 1 Turn the power on to all devices used.
- 2 Press the MENU button, the initial MONITOR SETUP MENU is displayed. The hand mark () is located in "CLOCK SET".



3 Press the SHIFT ▶ button, the CLOCK SET menu is displayed.



- 4 Press the SET (or +) button to set the hours. Press the SHIFT ▶ button.
- 5 Press the SET (or +) button to set the minutes. Press the SHIFT ► button.
- 6 Press the SET (or +) button to set the seconds.
 Press the SHIFT ▶ button.
- 7 Press the SHIFT ▼ button.
- 8 Press the SET (or +) button to set the month. Press the SHIFT ▶ button.
- 9 Press the SET (or +) button to set the day. Press the SHIFT ► button.
- 10 Press the SET (or +) button to set the year.
 - The day of the week is set automatically.
- 11 Press the MENU button three times, the normal screen is displayed.
 - The setting procedure is now complete.

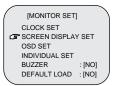
Setting the On-Screen Display

Setting the Screen Display

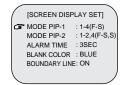
You can select the display of the MODE PIP-1, MODE PIP-2, ALARM TIME, BLANK COLOR and BOUNDARY LINE.

- 1 Turn the power on to all devices used.
- 2 Press the MENU button. The initial MONITOR SET MENU is displayed. The hand mark () is located in "CLOCK SET".

Initial MENU



3 Press the SHIFT ▶ button to select the SCREEN DISPLAY SET.



4 Press the SET - (or +) button to set the modes you want.

The modes are changed described below.

MODE PIP-11-4(F-S)
$$\rightarrow$$
 1-2(F-S) \rightarrow 1-3(F-S) \rightarrow 1-4(F-S)...

MODE PIP-21-2,4(F-S,S)
$$\rightarrow$$
 1-3,4(F-S,S) \rightarrow 1-2,4(F-S,S)... 2,3(F-S,S) \rightarrow 1-2,4(F-S,S)...

ALARM TIME3SEC
$$\rightarrow$$
 4SEC \rightarrow 5SEC... 60SEC \rightarrow OFF \rightarrow 1SEC \rightarrow 1SEC \rightarrow 2SEC \rightarrow 3SEC...

BLANK COLORBLUE \rightarrow GRAY \rightarrow BLACK \rightarrow BLUE... BOUNDARY LINEON \rightarrow OFF \rightarrow ON...

- Alarm functions -

Connect the alarm devices such as PIR sensors or

/

- PIP-1: This is used in PIP format. Channel 1 will be the main screen. The user has the option to select the Picture-in-Picture screen to channel 4 (1-4), channel 3 (1-3) or channel 2 (1-2).
- PIP-2: This is used in the twin PIP format. Channel 1 will be the main screen. The user however has the option to select the two twin Picture-in-Picture screens. 1-2,4 for example will display channel 2 and 4 as the twin picture in picture screens.
- ALARM TIME is the duration time that the audible buzzer sounds.
- BLANK COLOR: you can select BLUE, GRAY or BLACK using the SET -/+ button will decide the color of the blank channel.
- BOUNDARY LINE: you can turn ON or OFF of boundary line for being visible.



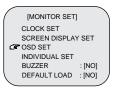
- Alarm Time Set can be adjusted from 1 to 60 seconds in Screen Display Set mode.
- Alarm sensor can be released by pressing MENU button for 2 seconds.
- magnetic reed switch, etc. to the sensor port on the back of the cameras or monitor. An audible buzzer for 1 to 60 seconds and an alarm output for 1 to 60 seconds are provided to alert the user or to activate a recorder. The trigger signal is sent to the monitor when an alarm is activated. The picture will be displayed in full screen, even if the monitor is set to quad mode. When the next alarm is activated after the first alarm hold time, each alarm input picture will be displayed sequentially in full screen and returns to quad mode. Meanwhile, when the next alarm is activated within the first alarm hold time, the picture will be displayed in quad mode and the alarm indicator "A" blinks in each screen during the alarm setting time. Then the quad mode is maintained. When a sensor is activated, the unit in the sequential mode will automatically lock on to the alarmed camera for 0 to 60 seconds. The set will automatically return to the QUAD mode after alarm bold time, 0 to 60 seconds.
- 5 Press the MENU button three times, the normal screen is displayed.

Selecting the On-screen Display

You can select whether or not to display the time, date, title, alarm counter and tape counter.

- 1 Turn the power on to all devices used.
- Press the MENU button. The initial MONITOR SET MENU is displayed. The hand mark () is located in "CLOCK SET".

Initial MENU



3 Press the SHIFT ▶ button to select the OSD SET.



4 Press the SET - (or +) button to set "ON" or "OFF" for the functions described below.

Time......The time is displayed.

DateThe Month-Day-Year is displayed.

Title.....The title is displayed.

- A maximum of 8 characters can be used in title mode. (letters, numbers or spaces)
- 5 Press the MENU button three times, the normal screen is displayed.

The setting procedure is now complete.

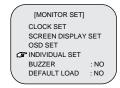
 The items for which "ON" is set are recorded. The items for which "OFF" is set at step 6 above are not recorded.

Individual Set

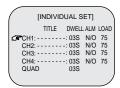
You can set the title, dwell, alarm, load and audio input for quad in individual mode.

- 1 Turn the power on to all devices used.
- 2 Press the MENU button. The initial MONITOR SET MENU is displayed. The hand mark () is located in "CLOCK SET".

Initial MENU



3 Press the SHIFT ► button to select the INDIVIDUAL SET.



4 Press the SET - (or +) button to set the modes you want.

The modes are changed described below.

Title A maximum of 8 characters can be used in title mode. (letters, numbers or spaces)

Dwell03S
$$\rightarrow$$
 04S \rightarrow 05S \rightarrow ... \rightarrow 30S \rightarrow OFF \rightarrow 01S \rightarrow 02S \rightarrow 03S...

Alarm.....
$$N/O \rightarrow OFF \rightarrow N/C \rightarrow N/O...$$

Press the MENU button three times, the normal screen is displayed.

The setting procedure is now complete.

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In the following cases, the buzzer will be heard approximately 5 times.

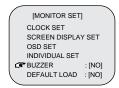
- If the REC button is pressed while a cassette without erasure-prevention tab is loaded.
- If a cassette, without the erasure - prevention tab, is loaded while the timer is set.
- If there is a series recording input while a cassette without erasure-prevention tab is loaded.
- If the TIMER button is pressed without inserting a cassette.



 If "NO" is set, the buzzer will not operate.

Setting the Buzzer

Press the MENU button to display the MONITOR initial MENU.



- 2 Press the SHIFT ▼ button to move the hand mark(⑤) to BUZZER.
- 3 Press the SET +/- button to set "YES" for the functions described below.
 - The buzzer will be heard whenever a button is pressed.

Setting the Default Load

 Press the MENU button to display the Monitor initial MENU.



- 2 Press the SHIFT ▼ button to move the hand mark(⑤) to DEFAULT LOAD.
- 3 Press the SET +/- button to set "YES" for the functions described below.
 - The default load function is to Loading for INITIAL data.
 - [NO] : Disable INITIAL data loading.
 - [YES] : Enable INITIAL data loading.

/

 TITLE: you can enter up to 8 characters for each camera title.

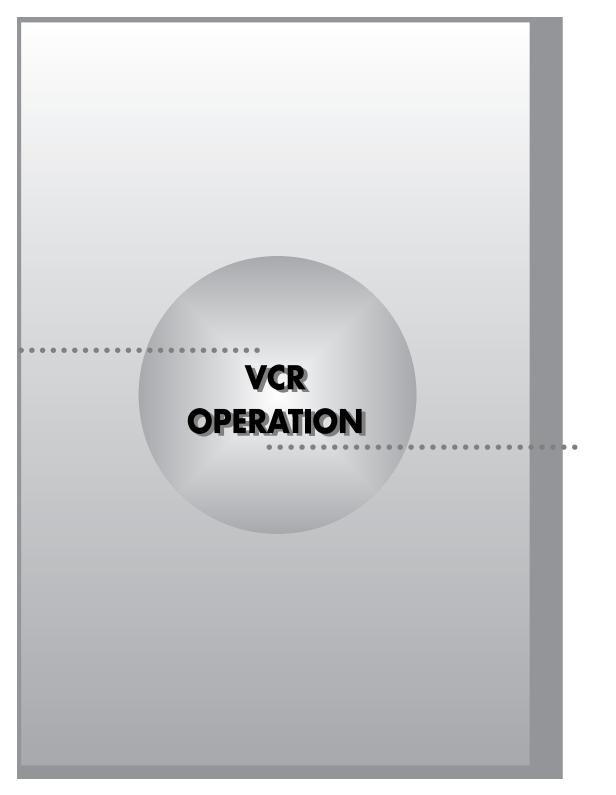
 DWELL is the amount of time that a camera is displayed on the screen when the system is in the Automatic sequential switching mode.

 ALARM: There are three factors to provide the alarm positions, Normally Open (N.O), Normally Closed (N.C) and OFF.

When you select OFF, alarm recording won't be performed.

• LOAD: The video signal is normally terminated by 75ohms. But in case the signal is distributed to a number of lines, only one of lines is needed to be terminated by 75ohms(1Vp-p), while the other lines are terminated by High impedance status (2Vp-p).

Security 14" Monitor Combination



Normal Recording

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• If the Repeat Rec Set is set to "NO" in the REC MODE SET menu, recording will continue to the end of the tape, then stop and the tape will be ejected.



- A tape recorded on this set cannot be played back on another make of time lapse VCR.
- If you press on the REC button and the loaded cassette has no erasureprevention tab, the set will eject the cassette.
- During recording, the Menu button will not function (the menu cannot be accessed).

1

- If you playback the recorded part where recording check was performed, noise may appear.
- If you change the recording speed during recording, noise or missing signal may result.

Normal Recording

- 1 Turn the power on to all devices used.
- 2 Load a cassette tape with erasure prevention tab in place.
- Press the REC/PLAY SPEED ▼ (or ▲) button to set the recording speed.
- The recording speed is displayed on-screen.
- If you don't want to record the recording speed, counter, title, time, date etc, press the DISPLAY button, then start recording.
- 4 Press the REC button.
 - The Rec LED will be lit on and recording starts.
- 5 To stop recording, press the STOP button.
 - <Recording Speed>

Record	0	Maximum recording duration (with an T-120 cassette tape)	Recording interval	Audio Recording	Tape Motion
2		Standard mode	1/60 second		
6		Standard mode	1/60 second	Possible	Continuous
18			0.12	1 0551010	Continuous
24			0.22		
36			0.32		
48			0.42		
72			0.62		
96		Time Lapse mode	0.82	v .11	*
120)	_	1.02	Impossible	Intermittent
168	3		1.42		
240)		2.02		
360)		3.02		
480)		4.02		
720)		6.02		
960)		8.02		

 Audio recording in the 18 hour setting or above may result in distortion of the audio/or video and is therefore not recommended.

- During pause, the image appears on screen but it is not recorded.
- If a recording pause continues for 5 minutes or more, the set will go into stop mode to avoid damage to the tape.

Record Pause

Recording can be interrupted temporarily.

- 1 Press the PAUSE/STILL button during recording.
- To resume recording, press the REC button, or press the PAUSE/STILL button again.

There are two program timer recording methods, daily recording or recording on certain days of multiple weeks (weekly recording).

Example 1: To record on every Tuesday from 21:10 to 23: 50, in 18-hour mode (recording speed), in channel 1 camera

- 1 Make sure that the set date and time are correct.
- 2 Load a cassette tape with erasure prevention tab in place.
- 3 Press the MENU two times and SHIFT ▼, SHIFT ►, SHIFT ► buttons in sequence to display the TIMER PROGRAM REC SET menu.



- The white block cursor is on "SUN" (Sunday).
- 4 Press the SHIFT ▼ button, until the cursor is on "TUE".
- 5 Press the SHIFT ▶ button. The cursor is moved to the Camera setting position. Press the SET (or +) button to set the camera among QUAD, CH1, CH2, CH3 and CH4.
- 6 Press the SHIFT ▶ button.
 - The cursor is moved to the recording start hour position.
- 7 Press the SET (or +) button to set the recording start hour(eg : 21), then press the SHIFT ▶ button.
 - The cursor is moved to the recording start minutes position.
- 8 Press the SET (or +) button to set the recording start minute (eg: 10), then the SHIFT ▶ button.
 - The cursor is moved to the recording stop hour position.



- If the set stop time is earlier than or the same time as the set start time, the set will consider the stop time to be the following day.
- 9 Press the SET (or +) button to set the recording stop hour(eg : 23), then press the SHIFT ▶ button.
- The cursor is moved to the recording stop minutes position. 10 Press the SET (or +) button to set the recording stop minutes(eg: 50), then press the SHIFT ▶ button.
- 11 Press the SET (or +) button to select the recording speed(eg: 18), then press the SHIFT ▶ button.
 - The cursor is moved to the (YES)/(NO) position.
- 12 Press the SET (or +) button to select "YES".

YES recording will take place

NO recording will not take place

- Repeat steps 4 to 14 to program timer recordings for other days of the week.
- To set two or more timer recordings the same day of the week, press the SHIFT ▼ button, until the cursor located in the day of the week for the second recording, then press the SET - (or +) button, to set the desired day of the week. With each press of the SET - (or +) button, the day will change as indicated below.

SET -: \leftarrow direction, SET +: \rightarrow direction

$$ightharpoonup$$
 SUN $ightharpoonup$ MON $ightharpoonup$ TUE $ightharpoonup$ WED $ightharpoonup$ THU $ightharpoonup$ FRI $ightharpoonup$ SAT $ightharpoonup$ DLY $ightharpoonup$

- 1
- To modify or cancel timer recording, press the TIMER button to cancel the timer recording mode.
- 13 Press the MENU button two times, the normal screen is displayed.
- 14 Press the TIMER button.
 - The Timer recording LED will be lit on.
 The VCR is now in timer recording stand-by mode.

Program Timer Recording
Program Timer Recording

Example 2: To record everyday from 10:00 to 18: 00, in 18-hour mode (recording speed), in channel 2 camera

- 1 Repeat steps 1 to 3.
- 2 Press the SHIFT ▼ button, until the cursor is on "DIY".



3 Repeat steps 5 to 14.

Changing a Program Timer Recording

- 1 Press the MENU two times, SHIFT ▼, SHIFT ►, SHIFT ► buttons in sequence to display the TIMER PROGRAM REC SET menu.
- 2 Press the SHIFT ► (or ▼) button, until the cursor is located in the setting to correct.
- 3 Press the SET (or +) button, to correct the setting.
 - Press the MENU button two times until the normal screen is displayed.
- 4 Press the TIMER button.

To Cancel a Program Timer Recording

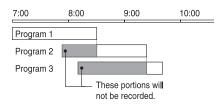
- 1 Repeat step 1 above.
- 2 Press the SHIFT ► (or ▼) button until the cursor is located in the (YES) corresponding to the timer recording to cancel.
- 3 Press the SET (or +) button, to select (NO).
- 4 Press the MENU button two times until the normal screen is displayed.
- 5 Press the TIMER button.
 - The clear button can erase the programmed timer recording in the line that the cursor is located.

Security 14" Monitor Combination

Notes...

- During timer recording all the buttons on the VCR, except the STOP button, are disabled. If the STOP button is pressed during timer recording, the recording will stop.
 During timer recording stand-by, press the TIMER button if the buttons do not respond.
- If there is a power loss, the recording will be interrupted. When the power is restored, the recording will resume if the stop time has not yet been reached. The VCR internal battery is completely charged after the VCR has been connected to an AC power outlet for 48 hours, and it will maintain all the VCR settings memory for up to 30 days.
- Set the timer recordings so that the recording times do not overlap. If they do, the one with the earliest recording start time will have priority.

(See chart below)



 If the cassette tape is ejected while timer recording is set, the buzzer will be heard 5 times (when the buzzer function is set to "YES".)

Alarm Recording Setting

Alarm recording is performed when there is an input (trigger) at the ALARM IN terminal.

- 1 Make all necessary connections.
- 2 Press the MENU two times, SHIFT ▼, SHIFT ► buttons in sequence to display the REC SET menu.
- Press the SHIFT ▼ button until the hand mark() points to ALARM REC SET.





- 5 Press the SET- (or+) button to select the desired recording speed.
- 2H...2-bour mode recording
- 6H . . . 6-hour mode recording
- 18H . . 18-bour mode recording
- 24H . . 24-bour mode recording
- 6 Press the SHIFT ▼ button to set the alarm duration.
- 7 Press the SET- (or+) button to select the desired recording duration.
- Auto: Records as long as the alarm signal is being input. (Minimum 2 minutes is recorded.)
- 3/5/10/15/20/25/30 MIN : Recording for the set duration. (MIN : minute)
- T.END: Records until the tape end is reached when there is alarm trigger input.
- Press the MENU button three times until the normal screen is displayed.



- During alarm recording all buttons are disabled except the STOP button. If the STOP button is pressed, the alarm recording will stop.
- If an alarm trigger is received while alarm recording is in progress, the recording duration for the second alarm will be calculated from that point.
- When there is a power loss during alarm recording, if the power is restored within the recording set duration, alarm recording will continue.
- Alarm recording is released and can't be performed by pressing ALARM button (on the remote control) and MENU button (on the front panel) for 2 seconds.



 Alarm Counter Reset can be performed by pressing the CLEAR key in Initial Menu screen.

Alarm Recording Counter Display

During alarm recording, alarm LED will be lit on the front panel.

The maximum display number of alarm triggers is "A35", at the next alarm recording the counter will be displayed "A35".

Autorepeat Recording

If during autorepeat

recording there is an

continue after alarm

alarm trigger, R.REC LED is lit on and alarm

recording will take place.

Autorepeat recording will

recording has completed its programmed duration.

Autorepeat Recording

The same tape can be recorded over many times. Please note that if you activate this feature you will lose the entire previous recording.

1 Press the MENU two times, SHIFT ▼, SHIFT ► button in sequence to display the REC SET menu.

[REC SET]
TIMER PROGRAM REC SET
ALARM REC SET
CF REPEAT REC : NO

- 2 Press the SHIFT ▶ button to make the hand mark (⑤) point to REPEAT REC.
- 3 Press the SET- (or+) button to set the desired autorepeat recording mode.

NOAutorepeat recording doesn't take place.

YESAutorepeat recording takes place. R.Rec LED will be lit on.

- 4 Press the MENU button two times, the normal screen is displayed.
 - The setting procedure is now complete.
- 5 Press the REC button.
- Recording will start. When the tape's end is reached, the VCR will rewind it to the beginning regardless of the counter memory, and recording will resume.

Normal Playback

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- A slow motion effect or accelerated playback effect can be achieved by using a slower or faster playback speed than the speed used for recording.
- During playback, current mode of VCR, playback speed and time are displayed for 3 seconds.
- You can hear the audio only when the audio is turned on.

Normal Playback

- 1 Turn on the power to the TV monitor.
- 2 Load the video cassette tape.
- 3 Press the PLAY button.
 - Playback starts.
 - If necessary, adjust the tracking to eliminate the noise from the picture.
- 4 Press the REC/PLAY SPEED ▼ (or ▲) button to select the playback speed.
 - A tape recorded with SP heads can be played in 2/6/ 18/24/36/48/72/96/120/168/240/360/480/ 720/960 Hour.
- 5 To stop playback, press the STOP button.
- To advanced or rewind the tape, press the FF/CUE or REW/REVIEW button.

Tracking Control

If there is noise in the image during playback,

- 1 While looking at the playback picture, press and hold the TRACKING + button to minimize the noise.
- 2 If it cannot be minimized, press the TRACKING button.
- 3 Press the PLAY button in the playback mode.

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 Noise will appear in the image when audio playback is used in 18hour and 24-hour mode.

Audio Playback

Audio playback is only possible in 2-hour, 6-hour, 18-hour and 24-hour modes.

The playback speed has to be the same as the recording speed, for normal playback of the audio.

For a tape recorded in 2-hour, 6-hour, 18hour and 24-hour modes, to playback the audio, press the AUDIO button after pressing the PLAY button. Audio LED will be illuminated on the front panel.

1

- During picture search, noise (horizontal bars) will appear in the picture.
- The sound is muted.



- If still mode continues for 5 minutes or more, the VCR will go into stop mode to avoid damaging the tape.
- If the image is unstable (rolling vertically), adjust the tracking control to correct.

Picture Search

- 1 Press the FF (or REW) button, during normal playback.
 - The image can be seen while the tape is advanced (or rewound) at high speed.
- 2 To return to normal playback, press the PLAY button.

Still Image

- 1 Press the PAUSE/STILL button, during normal playback.
 - A still image can be viewed.
- 2 To return to normal playback, press the PLAY button.
- With each press of the PAUSE/STILL button, the still image is advanced one image (frame).

Vertical Lock Control

During still image mode,

- 1 Press the TRACKING + button to reduce the vertical rolling of the image.
- If it cannot be corrected, press the TRACKING button.

Slow

- With each press of the FF button, during still image mode, the slow speed will change as indicated below. 1/15times → 1/20times → 1/30times (forward direction)
- 2 With each press of the REW button, during still image mode, the slow speed will change as indicated below. 1/15times → 1/10times → 1/5times (backward direction)
- 3 To return to normal playback, press the PLAY button.

Recording Check

During recording, press the REC CHECK button.

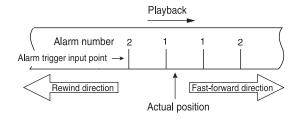
• The tape will be rewound for about 5 seconds and slow play mode will be performed. The VCR will then return to the previous recording mode.

Alarm Search

- Press the Menu button two times to display the VCR initial menu.
- 2 Press the SHIFT ► button to select TAPE SEARCH SELECT, then press the SHIFT ► button to display the TAPE SEARCH SELECT menu.



- 3 Move the hand mark() to FF or REW in the Alarm Search mode as you want to search.
- 4 Press the SET -(or +) button to enter the number of alarm marks you want to search, press the SHIFT ▶ button to search forward or in reverse.
 - The display returns to the normal screen.
 - The VCR will locate the desired alarm recording and begin playback.



 During recording check operations, recording is suspended momentarily.

Alarm Scan

- 1 Repeat steps 1 to 3.
- 2 Press the SHIFT ▶ button to search forward or in reverse without entering a specific alarm number.
 - The display returns to the normal screen.
 - The VCR will advance (or rewind) the tape at high speed, and playback the first 5 seconds of every alarm recording.
 - To cancel the alarm scan mode, press the STOP button.
- 3 While the desired recording is being played back, press the PLAY button.
- Playback will start, and alarm scan is cancelled.

Index Search

- 1 Repeat steps 1 to 2.
- 2 Move the hand mark() to the FF or REW in the INDEX SEARCH mode as you want to search.



- 3 Press the SHIFT ▶ button to search forward or in reverse.
- The display returns to the normal screen.
- The VCR will advance (or rewind) the tape at high speed and playback the first 5 seconds of every normal recording.
- To cancel the index search mode, press the STOP button.
- 4 While the desired recording is being played back, press the PLAY button.
- Playback will start, and index search is cancelled.

Other Functions

1

- When you insert a cassette, the counter always resets to zero.
- There is no tape counter indication for the blank portions of tape.
- In the 2-hour recording speed mode only, the tape counter indicates real hours, minutes and seconds.
- In the other SP recording speed modes (24H, 36H), the tape counter indication is a ratio of the 2-hour mode base indication. (In 24-hour recording mode, each "second" of the tape counter actually represents approximately 24/2 = 12 real seconds.)
- In the other EP recording speed modes (18H), the tape counter indication is a ratio of the 6-hour mode base indication. (In 18-hour recording mode, each "second" of the tape counter actually represents approximately 18/6 = 3 real seconds.)
- There may be a slight discrepancy between the position shown on the tape counter and the actual tape position.
- When rewinding the tape past the "OH OOM OOS" position, a minus(-) displayed.

Tape Counter (Zero Search)

Using the counter, it is easy to find a desired recording.

- 1 Press the CLEAR button, at the beginning of the desired recording.
 - The counter will be reset to "OH 00M 00S" (on screen).
- 2 After recording or playback, press the Menu button two times to display the VCR initial MENU.
- Press the SHIFT ▼ button to move the hand mark(⑤) to TAPE SEARCH SELECT.
- 4 Press the SHIFT ▶ button to display the TAPE SEARCH SELECT menu. The TAPE SEARCH SELECT menu is displayed.



- 5 Press the SHIFT ▼ button to move the hand mark(⑤) to COUNTER ZERO SEARCH.
- 6 Press the SHIFT ► button to search the counter "0H 00M 00S".
- The display returns to the normal screen.
- The tape is rewound or advanced to the counter "OH 00M 00S" reading.



- While the security lock is engaged, all commands are disabled.
- The security lock should not be engaged while a menu is displayed.



- The data for the previous alarm recordings, past 35, is erased.
- Alarm Counter can't be recorded in tape eject mode.

Setting the Security Lock (Set Lock)

The security lock function is designed to prevent accidental stopping of recording if the STOP button is pressed inadvertently.

- 1 Set the SET LOCK switch to "ON" position.
- 2 To cancel the security lock, set the SET LOCK switch to "OFF" position.

Checking the Alarm Recording Times

- 1 Press the MENU button two times to display the VCR initial MENU.
- 2 Press the SHIFT ▼ button to move the hand mark(⑤) to ALARM INPUT TIME.
- 3 Press the SHIFT ► button to display the ALARM INPUT TIME menu.
- The number of alarm triggers and the 35 most recent alarm recording times are displayed.

[ALARM INPUT TIME]

NO INPUT DATE TIME

35 CH2 05/21 17:50:22

34 CH1 05/12 18:53:22

4 Press the MENU button twice, the normal screen is displayed.



POWER LOSS

the number of power losses and the date and time of the 35 most recent power losses and recoveries are displayed.

• The Running Time data

cannot be reset even

pressed. If the RESET

running time data.

though the reset button is

button is pressed, all data

can be reset except the



- Press the MENU button two times to display the VCR initial MENU.
- 2 Press the SHIFT ▼ button to move the hand mark(⑤) to POWER LOSS TIME.
- 3 Press the SHIFT ▶ button to display the POWER LOSS TIME menu.
- The number of power losses, and the 35 most recent power loss times are displayed.



4 Press the MENU button twice, the normal screen is displayed.

Checking Usage Duration

1 Press the MENU button two times to display the VCR initial MENU.



Drum Running Time : The video heads usage duration.

2 Press the MENU button, the normal screen is displayed.

V

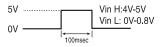
Security 14" Monitor Combination

Setting In/Out terminals

- ALARM INPUT Terminal

This terminal is to connect PIR sensors, door contacts or any type of motion detector.

"N/C" (Normally CLOSED Switch Circuit)
 If the input becomes DC 5V for 500 msec or more, the VCR starts alarm recording.



2) "N/O" (Normally OPEN Switch Circuit)

If the input becomes 0V for 500 msec or more, the VCR starts alarm recording.

- TAPE END(OUT) Terminal

1) "High"

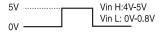
During recording, when the end of the tape is reached, the output becomes DC 5V.



- WARNING OUTPUT Terminal

1) "High"

If the Power LED on the front panel continues to flash, the output becomes DC 5V. If the POWER button is pressed, the emergency mode is released, then the output becomes 0V.



Daily Inspection

The following daily inspections are recommended in order to assure long-term and trouble-free operation of the unit.

The daily inspections are particularly important if using autorepeat recording.

Inspection Procedure

- 1 Turn on the power to the camera, TV monitor and other connected devices.
- 2 Check that the image received on the TV monitor is correct.
- 3 Check that the on-screen display of the date and time is correct.
- 4 Press the REW button to rewind the recorded tape a few seconds.
- 5 Press the PLAY button and check that the playback image is correct.
 - Check in particular playback of time lapse recording (18 or 24 hour mode).
- 6 Check that the recorded date and time are correct.

- If the security lock is engaged, it has to be released before proceeding with the inspection.
- If any problem is discovered during the inspection, unplug the power cord and consult your dealer.

If the unit does not operate normally when you follow the instructions indicated in the manual, please refer to the table below.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
No power.	The power cord is not correctly connected to the wall outlet.The unit is in timer recording standby mode.	Connect the power cord firmly into the walloutlet. This is normal, not a malfunction.
No image displayed on the monitor TV.	- The connections are not correct The power to the camera and/or monitor TV is not turned on.	- Check that all connections are correct Turn all connected devices power on.
The buttons do not respond.	 The unit is in timer recording standby mode. Alarm recording. The security lock(SET LOCK) is engaged. 	 - Press the POWER button. - Wait for the alarm recording to end. - Press the STOP button to stop. - Press the STOP button to stop. - Cancel the security lock.
Unit will not go into record mode.	- The loaded cassette has no erasure prevention tab.	- Load a cassette tape with erasure prevention tab or cover the tab hole with adhesive tape.
Autorepeat.	- "NO" is selected for autorepeat recording in the REC SET menu During autorepeat recording when there is an alarm input, autorepeat recording is canceled.	- Be sure to select "YES" for autorepeat recording. - Set "YES" again for autorepeat recording.
Timer recording.	- The date and time are not correct. - The unit is not set to timer recording stand-by mode. - "N" is selected for the TIMER PROGRAM REC SET.	- Set the date and time correctly Press the TIMER button to lit on TIMER LED Be sure to select "Y" for the TIMER PROGRAM SET.

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Alarm recording.	- "NO" is selected for alarm recording in the ALARM REC SET menu.	- Be sure to select "YES" for alarm recording.
Noise in the playback picture.	- The tracking adjustment is in the wrong The video heads need cleaning.	Adjust it by using the manual tracking. Press the PLAY button in the playback mode. Clean the video heads.
The date and time are not recorded.	- "OFF" is selected for the date and time in the OSD SET menu The date and time go off the ON-SCREEN by pressing the DISPLAY button.	Be sure to select "ON" for the display. Press the DISPLAY button to show the date and time.
The cassette tape cannot be ejected.	- Problem with the system or tape.	- Unplug the power cord then plug it back in.

Periodic Inspection and Maintenance

Periodic inspection and maintenance should be referred to your dealer. If there is noise in the playback picture, and it cannot be corrected using the tracking control, it may indicate that the video heads need cleaning. The video heads should be cleaned and inspected every 1,000 hours. The video heads usage can be checked using initial menu, running time.

System Down

If the unit does not function at all, try the following.

- 1 Unplug the power cord then plug it back in.
- 2 Reset the memory. (Press the RESET button. Under normal conditions, do not touch the RESET button.)
- 3 If the problem is not corrected after performing steps 1 and 2, consult your dealer.

Specifications

VCR

General Specifications

Recording method Dual-azimuth 4-head rotating helical scanning system

Audio recording In 2, 6, 18 and 24 hour modes
Tape speed 33.35 m/sec (2 hour mode)
Specified video cassette tape VHS 1/2 inch video cassette tape

Recording/playback time 2/6/18/24/36/48/72/96/120/168/240/360/480/

720/960 hours (when using T-120 tape)

Fast forward/rewind time Within 3 minutes (when using T-120 tape)

Television system NTSC color TV system

Video

Recording method Luminance signal: FM recording

~0.8V Down-converted subcarrier phase shift system

Video input $1 \text{ Vp-p, BNC, } 75\Omega, \text{ unbalanced}$ Video output $1 \text{ Vp-p, BNC, } 75\Omega, \text{ unbalanced}$ Horizontal resolution 1 Black & white mode 1 Black & white mode

Audio

Connectors

Alarm input 1 DC $4\sim5V({\rm Open})$, DC $0\sim0.8V({\rm Closed})/5.7k\Omega$ Alarm input 2 DC $4\sim5V({\rm Open})$, DC $0\sim0.8V({\rm Closed})/5.7k\Omega$ Alarm input 3 DC $4\sim5V({\rm Open})$, DC $0\sim0.8V({\rm Closed})/5.7k\Omega$ Alarm input 4 DC $4\sim5V({\rm Open})$, DC $0\sim0.8V({\rm Closed})/5.7k\Omega$

Tape End output $DC 4\sim 5V(H)/5.7k\Omega$ Warning output $DC 4\sim 5V(H)/5.7k\Omega$

Common 1/2/3/4 OV(GND)

Operating temperature range 41°F - 104°F Operating humidity range 80% or less

Power requirements AC 90~250V, 50/60 Hz

Power consumption 102W

Dimensions 387(W) x 403(H) x 373(D) Weight approximately 14kg **MONITOR**

General specifications

System 525 lines, 60 fields per second Effective Picture Size Height: 8.27 inch (21.0 cm) Width: 11.0 inch (28.0 cm)

Input Signal Composite video, sync. Negative

Sub-carrier Frequency Sync. Range

- 579545MHz ± 200Hz

-433619MHz ± 200 Hz at room temperature

Specifications

High Voltage $23.5\text{KV} \pm 500\text{V}$

Connectors

BNC connector video in

6-pin mini DIN video in, audio in/out, +12V DC out, alarm (PIR) in

RCA jack VCR in/out

Other Specifications

Convergence At center of picture: less than 1.0mm

At corner of picture: less than 1.4mm

Brightness 60 ft/1 (bright, cont. max.)

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